

UXO AND THE PANAMA CANAL

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The Panama Canal has had a military presence since 1904 with the associated munitions being projected, dropped, placed and thrown into one of three basic ranges, Empire, Balboa West, and Pina. Today's discussion will cover the Empire Range which is adjacent to the Pedro Miguel locks on the Pacific side of Panama. As a result of the Panama Canal Treaty of 1977, the Canal is being turned over to the Panamanian Government at noon on December 31, 1999. In order to turn over a major portion of the Empire Range free of surface UXO, EOD Technology, Inc. (EODT) has been onsite conducting a removal action since March 1998 thru present day and will remain through August 1999.

The jungle terrain and 12'-20' high kuna grass has presented unique challenges to the customary location and removal procedures. Included in these challenges is the wide range of UXO, 60 mm and 81 mm mortars, 40 mm HE, 105 and 155 mm, AT-4, 90 and 106 mm RR, 2.36 3.5, SMAW, LAW and 2.75. In addition, numerous specialty rounds such as flechelt and sub-munitions are also present. The smaller items are extremely difficult to see and pose a constant threat to personnel. Only UXO qualified personnel are permitted in the area.

In order to safely clear the various areas, it was necessary to implement a number of innovative procedures. These ranged from new techniques in the use of heavy duty weed eaters, burning of vegetation once it was cut, and the use of defoliants. These procedures were used during both the wet and dry seasons.

Although the terrain looks smooth, it is saturated with holes, craters, ravines, streams and steep hills. These obstacles precluded the use of gators and limited the use of site vehicles. In order to improve ingress and egress, temporary roads were created using a dozer and culverts where appropriate. The roads were not compacted nor did they contain any crushed stone, therefor they became virtually useless during the rainy season.

Contrary to the "60 Minutes" report, it is possible to safely clear UXO in the jungle. In fact, the jungle is easier due to the lack of kuna grass, however, the digging is more difficult due to the root network. Health and safety posed difficult problems which were

greatly reduced due to the excellent cooperation of the Panama Canal Commission, U.S. Army Southern Command and the U.S. Air Force. There are hundreds of varieties of poisonous and hazardous flora, and just as many poisonous snakes and other dangerous animals. To date we have had one broken nose and a twisted knee. Considering the 41,205 man hours spent on the project to date under extremely arduous conditions, this is an excellent safety record.

Explosives have been provided by the U.S. Army and stored on a Naval Base. EODT had to obtain the appropriate licenses and permits to satisfy USARSO and U.S. Army regulations. Demolition operations also posed some unique requirements due to the close proximity of the Panama Canal and a major canal roadway, K-2. Another problem is the wild fires during the dry season which are intense and extremely hot and fueled by the kuna grass. These fires and the demolition operations were a real treat to the passengers on the numerous cruise ships passing through the canal.